

Abstract of the Disclosure

Detection and identification of known sequences such as sequences composed of Walsh-Hadamard sequence and scrambling sequence are provided in a fast fading and frequency offset environment using a segmented correlator and FHT (Fast Hadamard Transform) architecture with
5 frequency offset compensation. The incoming sequence of samples or data is segmented into blocks. Each block is individually detected using a correlator/FHT segment. Each sequence identifying output of each correlator/FHT segment is multiplied by a sinusoid for frequency offset compensation. The frequency offset compensated output from each correlator/FHT segment is summed with the corresponding frequency offset compensated output of other
10 correlator/FHT segments. Each sum is compared with a threshold to determine whether a particular sequence has been detected and identified.